

51
Federal Republic of Germany

Int. Cl.: B65d, 65/44

52
German Patent Office

German Cl.: 81c, 26/02

10

11

Unexamined Patent Application 2156267

21

File ref.: P 21 56 267.4-27

22

Application date: 12th November 1971

43

Date laid open for
public inspection: 24th May 1973

Exhibition priority: -

30 Convention priority: -

32 Date: -

33 Country: -

31 File ref.: -

64 Title: Method for the production of a padded packaging material and
packaging made therefrom

61 Addition to: -

62 Division from: -

71 Applicant: Telion-Air-Pac Gesellschaft für moderne Verpackungen
mbH & Co KG.
3300 Brunswick

Representative under § 16

German Patents Law: -

72 Named as inventor: Krüger, Franz Leonhard, 3300 Brunswick

Ing. Franz Leonhard Krüger
Brunswick/Blumenstrasse 36

Method for the production of a padded packaging
material and packaging made therefrom

Padding materials in which e.g. cotton wool, foams, wood wool, straw, hay or similar are arranged between paper webs are already known in the packaging sector. The shortcomings of these known padding materials are due, i.a., to the fact that thin layers do not ensure an effective padding protection. In other words, the known paddings for packaging must be designed relatively bulky, which is disadvantageous in particular with consignments intended for export because the available transport space cannot be optimally used with packaging that is too bulky and is for the most part prohibited due to the spread of germs.

The object of the invention is to create a packaging material which, while very flat, has a good padding effect, is light and hygienic and can also be efficiently mass-produced with particular consideration for the use of automatic packaging machines.

To achieve this object, the invention proposes that a web of an air-cushion film is laid on one side, coated with weldable plastic, of a web of a carrier material of the same or greater width and bonded to this by linear welds. In this way a padded packaging material is created which, while very flat, can be efficiently mass-produced, has a very hygienic and attractive appearance and has an excellent padding effect.

The welding is preferably carried out at the two longitudinal edges. According to a further preferred version, the bonding of both webs and/or its rigidity is reinforced by additional welds running longitudinally, transversely or in any direction. It is also possible to bond both materials by full-surface welding under a small contact pressure to obtain the air cushioning, for instance by spot welding the raised air-cushion nubs to the carrier material.

Expediently, a blank or a web of the carrier material is used which is wider than the film web and bonded to the film web so that the carrier web projects over the film web at the longitudinal edges and thus forms the required guide edges during the processing of the packaging material on automatic packaging machines.

According to a further version, a carrier web is used which is so much wider than the film web and covers the centre line of both webs so that the edge of the carrier web projecting over the film web on both sides forms the sealing flaps of a sealable bag formed later from the composite material, the edges of the air-cushion film web being welded flush onto the carrier material underneath the flaps.

According to a particularly preferred version, such a composite film is folded about its longitudinal centre line, both arms of the folded film are bonded by broad weld seams at intervals corresponding to the desired bag width and at least over the region of the air-cushion film lining, and the finished bags separated from one another in the middle of same by cutting knives.

The thermoformed side, developed nub-like, of the air-cushion film faces the carrier material with its parts (nubs) projecting from the film in order to ensure a smooth insertion of the contents.

An example of the invention will be described in the following using the drawing; there is shown in

Fig. 1 a top view of the packaging material according to the invention which is prepared for the formation of a padded envelope, and
Fig. 2 a section along line II-II in Fig. 1.

According to the drawing, an air-cushion film 11, which is composed e.g. of polyethylene, is laid on a carrier paper 13 laminated with a plastic coating 12. The air cushions 18 projecting from one side of the air-cushion film 11 face the carrier paper 13. The film 11 is the same width as the carrier paper 13, but is somewhat narrower

than the latter, so that at both ends of the carrier paper 13 regions 17 project which are plastic-coated like the whole of the carrier material.

According to the invention, the air-cushion film 11 is thermally welded to the plastic coating 12 of the carrier paper 13 along both transverse end edges 16 such that the surface of the welds 16 passes flush into the surface of the regions 17. In this way, when the padded envelope formed later in the procedure, items can be easily inserted into the bag without getting caught on the transitional area between the regions 16, 17.

If expedient, e.g. because of the size of the padded envelope to be produced, intermediate welds 15 can also be provided for reinforcement in addition to the welds 16 at the ends of the air-cushion film.

As soon as the packaging material according to the invention is prepared in this way, it is folded up along the transverse centre line 19 such that the regions 17 come to lie on top of one another at the opposite ends. The side longitudinal edges 14 are then thermally welded together, the carrier material 13 being bonded tightly to the air-cushion film 11, and the two edges of the air-cushion film 11 lying on top of one another and also those of the projecting carrier material being bonded tightly together.

The padded envelope is now finished.

These padded envelopes can be produced on a conveyor such that a web, extending further to the left and right in Fig. 1, of the carrier material 13 and of the air-cushion film 11 is used, the weld seams 14 each being chosen double the width, as shown in Fig. 1. After the folding-up of the composite web about its longitudinal centre line and production of such weld seams 14 the latter are cut along their centre line, the individual padded envelopes then being obtained. Naturally the sealing flaps can be perforated in the usual manner in order to facilitate postal monitoring of dispatched goods. The plastic-coated carrier flaps also allow, in the case of bags or

wrappings for packaging and transport purposes, a welding together in order to seal off the contents in an air- and moisture-tight manner.

Patent claims

1. Method for the production of a padded packaging material, characterized in that a web of an air-cushion film (11) is laid on a side, coated with weldable plastic (12), of a web of a carrier material (13) of the same or greater width and is bonded to this by linear welding (14, 15, 16).
2. Method according to claim 1, characterized in that the welding (14) is carried out at both longitudinal edges.
3. Method according to claim 2, characterized in that the bonding of both webs and/or its rigidity is reinforced by additional welds (15, 16) running longitudinally, transversely or in any direction, or by full-surface welding.
4. Method according to one of claims 1-3, characterized in that a web of the carrier material (13) is used which is wider than the film web (11) and is bonded to the film web such that the carrier web projects over the film web at the longitudinal edges and thus forms the required guide edges for the processing of the packaging material on automatic packaging machines.
5. Method according to claim 1 or 2, characterized in that a carrier web (13) is used which is so much wider than the film web (11) and covers the centre lines of both webs such that the edge of the carrier web projecting over the film web on both sides corresponds to the flap size of a sealable bag formed later from the composite material, the edges of the air-cushion film web being welded flush onto the carrier material.
6. Method according to claim 5 for the production of padded envelopes, characterized in that a composite film according to claim 4 is folded about its longitudinal centre line (19), both arms of the folded film are bonded by broad weld seams (14) at intervals corresponding to the desired bag width and at

least over the region of the air-cushion film lining, and the finished bags are separated from one another in the middle of same by cutting knives.

7. Packaging produced according to one of the previous claims, in particular claims 4, 5 and/or 6.
8. Packaging according to claim 7 in the form of a bag for postal or transport purposes.

THIS PAGE BLANK (USPTO)